

PTO-1449 evidencing consideration of the above-referenced Information Disclosure Statements.

Claims 1-17, 19-30 and 47-58 are pending in the present application, of which claims 1-12, 19, 20, 47 and 48 are independent. For the reasons set forth in detail below, all claims are believed to be in condition for allowance. Favorable reconsideration is requested.

Paragraph 3 of the Official Action rejects claims 47, 48 and 53-58 as anticipated by JP 07-038113 to Morosawa. The Applicants respectfully traverse the rejection because the Official Action has not established an anticipation rejection.

As stated in MPEP § 2131, to establish an anticipation rejection, each and every element as set forth in the claim must be described either expressly or inherently in a single prior art reference. Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

The Applicants respectfully submit that an anticipation rejection cannot be maintained against the independent claims of the present application. Morosawa does not teach all the elements of the independent claims, either explicitly or inherently. The independent claims recite leveling a surface of a semiconductor film by heating after removing a natural oxidation film or an oxide film or after treatment with a hydrofluoric acid. Specifically, independent claims 1 and 47 recite leveling the surface of the semiconductor film by heating after removing said natural oxidation film; independent claims 2 and 5 recite leveling the surface of the semiconductor film by heating in a reducing atmosphere after removing said oxide film; independent claims 3 and 6 recite leveling the surface of the semiconductor film by heating in an inert gas after removing said oxide film; independent claims 4 and 19 recite leveling the surface of the semiconductor film by heating in an atmosphere after removing said oxide film; and independent claims 7-12, 20 and 48 recite leveling the surface of the semiconductor film by heating after the treatment with said hydrofluoric acid.

The Official Action broadly asserts that Morosawa teaches, for example with respect to claim 47, "leveling the surface of the semiconductor film by heating in the atmosphere containing inert gas (i.e., nitrogen gas) or in reducing atmosphere (i.e., in hydrogen) after removing the natural oxidation film" (page 2, Paper No. 20040616). The Official Action makes other similar broad assertions regarding the leveling step as recited in the other independent claims. The Applicants respectfully disagree and traverse the above-referenced assertion in the Official Action. Although Morosawa appears to teach a step of removing a natural oxidation film with hydrofluoric acid after forming a natural oxidation film by a heat treatment (Figure 4B), Morosawa fails to teach leveling a surface of a semiconductor film by heating after removing a natural oxidation film or an oxide film or after treatment with a hydrofluoric acid, either explicitly or inherently.

Since Morosawa does not teach all the elements of the independent claims, either explicitly or inherently, an anticipation rejection cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 102 are in order and respectfully requested.

Paragraph 5 of the Official Action rejects claims 19, 20, 23-30, 51 and 52 as obvious based on Morosawa. Paragraph 6 of the Official Action rejects claims 21, 22, 49 and 50 as obvious based on the combination of Morosawa and U.S. Patent No. 5,608,232 to Yamazaki et al. Paragraph 7 of the Official Action rejects claims 1-12 and 14-17 as obvious based on the combination of Morosawa and JP 09-186336 to Kudo et al. Paragraph 8 of the Official Action rejects claim 13 as obvious based on the combination of Morosawa, Kudo and Yamazaki. The Applicants respectfully traverse the rejection because the Official Action has not made a *prima facie* case of obviousness.

As stated in MPEP §§ 2142-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available


to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The prior art, either alone or in combination, does not teach or suggest leveling a surface of a semiconductor film by heating after removing a natural oxidation film or an oxide film or after treatment with a hydrofluoric acid. Morosawa, Kudo and Yamazaki, either alone or in combination, do not teach or suggest at least the above-referenced features of the present invention. As noted above, Morosawa fails to teach leveling a surface of a semiconductor film by heating after removing a natural oxidation film or an oxide film or after treatment with a hydrofluoric acid. Kudo and Yamazaki do not cure the deficiencies in Morosawa. Kudo is relied upon to allegedly teach irradiating an amorphous silicon film with an excimer laser in an atmosphere containing air (i.e. page 14, Paper No. 20040616) and Yamazaki is relied upon to allegedly teach furnace annealing (i.e. page 11, Id.). However, Morosawa, Kudo and Yamazaki, either alone or in combination, do not teach or suggest leveling a surface of a semiconductor film by heating after removing a natural oxidation film or an oxide film or after treatment with a hydrofluoric acid.

Since Morosawa, Kudo and Yamazaki do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,



Eric J. Robinson
Reg. No. 38,285

Robinson Intellectual Property Law Office, P.C.
PMB 955
21010 Southbank Street
Potomac Falls, Virginia 20165
(571) 434-6789